

- 10 -

CLAIMS

1. A unitary blade structure in or for a safety razor blade unit, comprising a cutting element with a sharp cutting edge, a guard element disposed forwardly of the cutting edge and extending parallel thereto, supporting
5 elements positioned at the opposite ends of the cutting element and interconnecting the guard element with the cutting element for mounting and positioning the cutting element in the blade unit, said cutting element, supporting elements and guard element all being integrally formed from a single crystal material.
- 10 2. A unitary blade structure in or for a safety razor blade unit, comprising a first cutting element with a sharp cutting edge, a second cutting element disposed forwardly of the cutting edge of said first cutting element and extending parallel thereto, supporting elements positioned at the opposite
15 ends of and interconnecting the cutting elements for mounting and positioning said cutting elements in the blade unit, said cutting elements and supporting elements all being integrally formed from a single crystal material.
3. A unitary blade structure according to claim 1 or claim 2, wherein a plurality of parallel cutting elements are provided.
4. A unitary blade structure according to claim 3, wherein the cutting
20 elements lie in respective parallel planes.
5. A unitary blade structure according to any of claims 1 to 4, including an integral cap member positioned behind the cutting element(s) and parallel thereto.
6. A unitary blade structure according to claim 1, including at least one
25 intermediate transverse element interconnecting the cutting element and the guard element between the supporting elements.
7. A unitary blade structure according to claim 2, including at least one intermediate transverse element interconnecting the cutting elements between the supporting elements.
- 30 8. A unitary blade structure in or for a safety razor blade unit, comprising a multiplicity of cutting elements with sharp cutting edges, the cutting

elements being integrally formed with each other, and with other elements interconnecting the cutting elements, from a single crystal ceramic material, said multiplicity of cutting elements being distributed along the blade structure and in the front to rear direction thereof.

5 9. A unitary blade structure according to claim 8, wherein two cutting elements are disposed one behind the other and have space parallel cutting edges.

10 10. A unitary blade structure according to claim 8 or claim 9, wherein the cutting edges of the cutting elements lie substantially in a common plane, the cutting elements are disposed in respective planes inclined to said common plane, and the interconnecting elements are spaced apart along the blade structure and extend transverse to the cutting elements and substantially parallel to the to the common plane of the cutting edges.

15 11. A unitary blade structure according to any one of claims 8 to 10, wherein interconnecting elements extending forwardly from a cutting element are displaced along the cutting elements from the interconnecting elements extending rearwardly therefrom.

20 12. A unitary blade structure according to any one of claims 8 to 11, wherein the or each cutting element is formed at least partially by anisotropic etching.

13. A unitary blade structure according to any one of claims 1 to 12, wherein the sharp cutting edge of the or each cutting element is defined by facet surfaces shaped by etching the single crystal material.

25 14. A unitary blade structure according to any one of claims 1 to 13, wherein the single crystal material is silicon.

15. A unitary blade structure according to any one of claims 1 to 14, wherein the cutting edge of at least one cutting element is inclined to the longitudinal direction of the blade structure.

30 16. A safety razor blade unit comprising a unitary blade structure as defined in any one of claims 1 to 15.

17. A method of making a cutting element for a safety razor blade unit

comprising the steps of providing a wafer of single crystal material having a surface lying in a predetermined plane of the crystallographic structure, selectively removing crystal material at the surface by employing an etching process to form a planar cutting element inclined at an acute angle to the surface plane and having a sharp edge substantially at the surface plane, and forming a guard element from the wafer of single crystal material by the etching process, said guard element being disposed substantially parallel to the cutting edge and spaced forwardly therefrom and being integrally connected to the cutting element by interconnecting elements.

10 18. A method according to claim 17, wherein the etching process comprises anisotropic wet chemical etching.

19. A method according to claim 17 or claim 18, wherein the etching process includes dry etching.